WHAT IS CLAIMED IS:

1. An amorphous simvastatin calcium salt of dihydroxy open acid simvastatin.

2. The amorphous simvastatin calcium of claim 1, characterized by data selected from the group consisting of a x-ray powder diffraction pattern as shown in Fig. 1, weight loss of about 1.5 % to about 2 % wt as determine by thermogravimetry and a differential scanning calorimetry curve as shown in Fig. 3.

3. The amorphous simvastatin calcium of claim 2, wherein the amorphous simvastatin calcium is characterized by a x-ray powder diffraction pattern as shown in Fig 1.

4. The amorphous simvastatin calcium of claim 2, wherein the amorphous simvastatin calcium is characterized by a weight loss of about 1.5 % to about 2 % wt as determined by thermogravimetry.

5. The amorphous simvastatin calcium of claim 4, wherein the amorphous simvastatin calcium is characterized by a thermogravimetry weight loss curve as shown in Fig. 2.

6. The amorphous simvastatin calcium of claim 2, wherein the amorphous simvastatin calcium is characterized by a differential scanning calorimetry curve as shown in Fig. 3.

7. The amorphous simvastatin calcium of claim 1, wherein the amorphous simvastatin calcium is anhydrous.

8. The amorphous simvastatin calcium of claim 7, wherein the amorphous simvastatin calcium contains less than 1.0 % wt of water.

9. The amorphous simvastatin calcium of claim 1, wherein the amorphous simvastatin calcium contains up to about 4 % wt of water.

10. The amorphous simvastatin calcium of claim 9, wherein the amorphous simvastatin calcium contains between about 1.8 % and about 2.4 % wt of water.

11. A process for preparing an amorphous simvastatin calcium, comprising the steps of:

a) combining a salt of simvastatin with a mixture of water and a water-immiscible organic solvent wherein the mixture forms an inorganic phase and an organic phase;
b) adding a calcium containing compound to the mixture; and
c) separating amorphous simvastatin calcium from the organic phase.

12. The process of claim 11, wherein the salt of simvastatin is selected from the group consisting of an alkali earth metal salt and an ammonium salt.

13. The process of claim 11, wherein the salt of simvastatin is dihydroxy open acid simvastatin salt.

14. The process of claim 12, wherein the alkali earth metal salt is sodium salt or potassium salt.

15. The process of claim 11, wherein water-immiscible organic solvent is selected from the group consisting of ether, ester, aromatic hydrocarbon and halogenated hydrocarbon.

16. The process of claim 15, wherein the ether has the formula R_1-O-R_2, wherein R_1 is C_{1-4} alkyl and R_2 is C_{1-4} alkyl.

17. The process of claim 15, wherein the ester has the formula R_1-CO_2-R_2, wherein R_1 is C_{1-4} alkyl and R_2 is C_{1-4} alkyl.

18. The process of claim 15, wherein the aromatic hydrocarbon is a mono or bicyclic aromatic ring system containing from 6 to 10 carbon atoms which may be optionally substituted by at lease one compound selected from the group consisting of C_{1-4} alkyl, hydroxyl and halogen.

19. The process of claim 15, wherein the halogenated hydrocarbon is a C_{1-4} alkyl group substituted by one to four halogen atoms.

20. The process of claim 19, wherein the halogen atom is chlorine.

21. The process of claim 15, wherein the ether is diethyl ether.

22. The process of claim 15, wherein the ester is ethyl acetate.

23. The process of claim 15, wherein the aromatic hydrocarbon is toluene.

24. The process of claim 15, wherein the halogenated hydrocarbon is dichloromethane.

25. The process of claim 11, wherein the calcium containing compound is a calcium salt of an acid selected from the group consisting of inorganic acid and organic acid.

26. The process of claim 25, wherein the calcium salt of an inorganic acid is selected from the group consisting of calcium chloride and calcium bromide.

27. The process of claim 25, wherein the calcium salt of an organic acid is selected from the group consisting of calcium acetate and calcium 2-ethyl-hexanoate.

28. The process of claim 25, wherein the calcium containing compound is selected from the group containing calcium oxide and calcium hydroxide.

29. The process of claim 11, wherein the separating step is performed by evaporation or precipitation.

30. The process of claim 29, wherein the precipitation is performed by adding an antisolvent selected from the group consisting of acetone, acetonitrile, methanol and hexane.

31. The process of claim 29, wherein the precipitation is performed by adding acetonitrile.

32. A process for preparing an amorphous simvastatin calcium, comprising the steps of:

a) combining a salt of simvastatin with a mixture of water and a water immiscible organic solvent wherein the mixture forms an inorganic phase and an organic phase;
b) adding an acid to the inorganic phase;
c) separating the organic phase from the inorganic phase;
d) adding a calcium containing compound to the organic phase; and
e) separating amorphous simvastatin calcium from the organic phase.

33. The process of claim 32, wherein the salt of simvastatin is the salt of dihydroxy open acid simvastatin.

34. The process of claim 32, wherein the acid is an inorganic acid or an organic acid.

35. The process of claim 34, wherein the inorganic acid is selected from the group consisting of hydrobromic acid, sulfuric acid, hydrochloric acid and phosphoric acid.

36. The process of claim 34, wherein the organic acid is selected from the group consisting of propionice and acetic acid.

37. The process as in one of claims 35 and 36, wherein the inorganic acid is hydrochloric acid.

38. The process of claim 32, wherein the salt of simvastatin is selected from the group consisting of an alkali earth metal salt and an ammonium salt.

39. The process of claim 38, wherein the alkali earth metal salt is sodium salt or potassium salt.

40. The process of claim 32, wherein water-immiscible organic solvent is selected from the group consisting of ether, ester, aromatic hydrocarbon and halogenated hydrocarbon.

41. The process of claim 40, wherein the ether has the formula R_1-O-R_2 wherein R_1 is C_{1-4} alkyl and R_2 is C_{1-4} alkyl.

42. The process of claim 40, wherein the ester has the formula R_1-CO_2-R_2 wherein R_1 is C_{1-4} alkyl and R_2 is C_{1-4} alkyl.

43. The process of claim 40, wherein the aromatic hydrocarbon is a mono or bicyclic aromatic ring system containing from 6 to 10 carbon atoms which may be optionally substituted by at least one compound selected from the group consisting of C_{1-4} alkyl, hydroxyl and halogen.

44. The process of claim 40, wherein the halogenated hydrocarbon is a C_{1-4} alkyl group substituted by one to four halogen atoms.

45. The process of claim 44, wherein the halogen atom is chlorine.

46. The process of claim 40, wherein the ether is diethyl ether.

47. The process of claim 40, wherein the ester is ethyl acetate.

48. The process of claim 40, wherein the aromatic hydrocarbon is toluene.

49. The process of claim 40, wherein the halogenated hydrocarbon is dichloromethane.

50. The process of claim 32, wherein the calcium containing compound is a calcium slat of an acid selected from the group consisting of inorganic acid and organic acid.

51. The process of claim 32, wherein the calcium containing compound is selected from the group consisting of calcium oxide and calcium hydroxide.

52. The process of claim 50, wherein the calcium salt of an organic acid is selected from the group consisting of calcium acetate and calcium 2-ethyl-hexanoate.

53. The process of claim 32, wherein the separating step is performed by evaporation or precipitation.

54. The process of claim 53, wherein the precipitation is performed by adding an antisolvent selected from the group consisting of acetone, acetonitrile, methanol and hexane.

55. The process of claim 53, wherein the precipitation is performed by adding acetonitrile.

56. A process for preparing an amorphous simvastatin calcium, comprising the steps of:

a) combining a simvastatin lactone with a mixture of water and a water-miscible organic solvent;
b) hydrolyzing the simvastatin lactone to form a calcium salt of simvastatin; and
c) separating amorphous simvastatin calcium.

57. The process of claim 56, wherein the water-miscible organic solvent is selected from the group consisting of ethanol and tetrahydrofuran.

58. The process of claim 56, wherein the hydrolyzing step is performed using calcium hydroxide.

59. The process of claim 56, wherein the separating step is performed by evaporation.

60. The process of claim 56, wherein the separating step is performed by precipitation.

61. The process of claim 60, wherein the precipitation is performed by adding an antisolvent selected from the group consisting of acetone, acetonitrile, methanol and water.

62. The process of claim 61, wherein the precipitation is performed by adding water.

63. A process for preparing an amorphous simvastatin calcium, comprising the steps of:

a) providing a slurry of simvastatin lactone in water;
b) hydrolyzing the simvastatin lactone to form a calcium salt of simvastatin; and
c) separating amorphous simvastatin calcium.

64. The process of claim 63, wherein steps a-c) are performed under nitrogen.

65. The process of claim 63, wherein steps a-c) are performed in the presence of an antioxidant.

66. The process of claim 65, wherein the antioxidant is butylhydroxytoluene.

67. The process of claim 63, wherein the separating step is performed by filtration.

68. The process of claim 63, further comprising the step of drying amorphous simvastatin calcium in a vacuum oven under nitrogen.

69. The process of claim 68, wherein the drying step is performed at a temperature between about 20^0C to about 50^0C.

70. An amorphous simvastatin calcium produced by the process as in one of claims 11, 32, 56 and 63.

71. The amorphous simvastatin calcium of claim 70, wherein the amorphous simvastatin calcium has a purity of at least about 96 % to about 99 %.

72. A process for preparing a simvastatin lactone, comprising the step of converting the amorphous simvastatin calcium as in one of claims 1-10, 70 and 71 to simvastatin lactone.

73. The process as in one of claims 11, 32, 56 and 63, further comprising the step of converting the amorphous simvastatin calcium to simvastatin lactone.